concentrated sea water would be retarded by this salt water.

Not only are these observations of great interest as bearing upon the health of certain seacoasts, but they have an important bearing in possibly explaining the cases of malaria observed upon sailing vessels that have not made port for months, since it indicates the possibility that *Anopheles* may breed in the bilge-water of such vessels. In such cases it is only necessary that one of the sailors should have gametes in his blood in order to start an epidemic of malaria aboard the vessel. The bad reputation which the coral islands of farther India have is explained by Doctor Vogel's observations, since so many cases of malaria are observed along the coast during the dry season when all the rivers and fresh-water streams are dried up.

The proposed destruction of *Anopheles* by the introduction of sea water seems not to be rational.

Good tidal ponds exercise a favorable influence upon the malarial death rate, but when these are infected, or even where the water is permitted to form isolated stagnant pools, the mortality from malaria reaches a high figure, as has been observed at Samarang. Villages near the sea, in the middle of tidal pools have had during a period of ten years an average mortality of from 1 to 4 per cent. each year. In villages further away from the sea, where the ponds have been abandoned or neglected and the sea water is, therefore, isolated, there is a mortality which varies from 8 to 10 per cent. each year. The pools in these regions during the dry season have a proportion of sea salt equal to that of the ocean from which they get their water. In this dry season the death rate is greatest, and this is exclusively due to the sea water ponds.

The great mortality is surely due to malaria, since almost without exception the cases of pernicious malaria or hæmoglobinuria which are treated at Samarang come from the south border of tidal pools. A quarter of Samarang called Zeestrand was inhabited by well-to-do citizens of the city who had good health, although surrounded by pools. Then, on account of the banking up of the coast, these pools were left further from the sea, and the inhabitants were forced to quit the quarter because the death rate from malaria reached terrible proportions. The empty houses of this quarter still bear witness to past grandeur. The mortality of the indigenous population which still remains there has been on the average during the last ten years 9.7 per cent. per year.

L. O. HOWARD

SCIENTIFIC NOTES AND NEWS

DR. HENRY FAIRFIELD OSBORN, one of the vice-presidents of the American Museum of Natural History and curator of vertebrate paleontology, has been elected president of the museum to succeed the late Morris K. Jesup.

THE University of Pennsylvania will confer the degree of doctor of laws on Mr. G. K. Gilbert, of the U. S. Geological Survey, on February 22. The annual university day address will be made by the Hon. Joseph H. Choate.

PROFESSOR ROBERT HELMERT, director of the Goedetic Institute at Potsdam, has been elected a corresponding member of the St. Petersburg Academy of Sciences.

LORD AVEBURY has been elected president of the Royal Microscopical Society, and will deliver an address on seeds, with especial reference to British plants, at the March meeting.

THE Association of American Geographers held its fourth annual meeting at Chicago during convocation week. The sessions lasted three days, including one joint session with Section E of the American Association. Forty-four papers were presented, this being the largest number yet offered at any meeting. Since the death of the society's president, Dr. Angelo Heilprin, the duties of this office have devolved upon the first vice-president, Professor Ralph S. Tarr. Officers elected for the coming year are G. K. Gilbert, president; R. D. Salisbury, first vice-president; Ellen C. Semple, second vice-president; A. P. Brigham, secretary; N. M. Fenneman, treasurer; R. S. Tarr, member of council. It was all but formally decided to hold the next annual meeting at New Haven.

Professor D. C. Jackson, of the Massachusetts Institute of Technology, has been retained by the Massachusetts Highway Commission, to make a report regarding the telephone situation with special reference to the practicability of a reduction in rates and a higher efficiency of service.

Professor R. C. McCrea, associate director of the New York School of Philanthropy, has been appointed by the trustees of Columbia University to make a preliminary study of humane societies and instruction in humanity, in view of the recent endowment of $100,000 to establish a chair in this subject.

The Rev. J. B. McClellan, M.A., has resigned the principalship of the Royal Agricultural College, Cirencester, after more than a quarter of a century's service.

The British secretary of state for the colonies has sent Dr. W. J. Simpson, professor of hygiene at King's College, London, and lecturer in tropical hygiene at the London School of Tropical Medicine, to the Gold Coast to assist in combating the present outbreak of bubonic plague at Accra.

Dr. W. S. Bruce, of the Scottish Oceanographical Laboratory, has received information from Buenos Aires to the effect that the ship *Austral* was getting ready to go south. Mr. Davis, of the Argentine Meteorological Office, will probably have another meteorological and magnetic station set up on Wandel Island for the coming year.

Under the auspices of the Sigma Xi scientific society of the University of Kansas, Professor Russell H. Chittenden, director of the Sheffield Scientific School of Yale University, will deliver two popular lectures at the University on February 17 and 18.

Dr. Lucien I. Blake, formerly professor of physics in the University of Kansas, will give a course of lectures upon electrical subjects before the students in electrical engineering at the university, during the last week in February. Aside from the technical lectures, Mr. Blake will deliver three popular lectures for the general public.

Arrangements have been made by the American Society of Naturalists to celebrate the one hundredth anniversary of Charles Darwin, in cooperation with the American Association for the Advancement of Science, on the occasion of their meetings in Baltimore in 1908. The Society of Naturalists will be represented on the Committee of Arrangements by the president, the secretary and several members.

A bust of A. Kekulé, eminent for his work at Bonn on organic chemistry, has been presented to the Worcester Polytechnic Institute by Dr. George D. Moore, formerly assistant professor of chemistry, and has been placed in one of the museums of the chemical department.

Mr. James Wallace Pinchot, who took an active interest in art and science, especially in forestry, and made liberal contributions for their support, died in Washington on February 6, at the age of seventy-six years.

Mr. Richard Hinckley Allen, of Chatham, N. J., died on January 14 at Northampton, Mass. Mr. Allen will be remembered as the author of "Star Names and their Meanings," a work of wide and scholarly research, and lasting value. Mr. Allen was a member of the American Association for the Advancement of Science and of the Astronomical Society of the Pacific, and the National Geographical Society.

Sir Thomas McCall Anderson, regius professor of medicine in the University of Glasgow, and an authority on diseases of the skin, died on January 25 at the age of seventy-one years.

Professor James Bell Pettigrew, M.D., LL.D., Chandos professor of anatomy and medicine in the University of St. Andrews, died on January 30 at the age of seventy-three years. He was the author of numerous contributions to medicine and other scientific subjects, being the author of a book on "Animal Locomotion" and of various papers concerned with flying machines.

Dr. Adolf Paalzow, formerly professor of physics in the Technological Institute at Charlottenburg, has died at the age of eighty-four years.

WE regret also to record the death, at the age of seventy-seven years, of Professor Vaclav K. Zengler, the Bohemian physicist and meteorologist, and of Dr. Chapot Prévost, professor of histology in Rio Janeiro.

THE following letter from the University of London, signed by Lord Rosebery, chancellor; W. J. Collins, vice-chancellor; Edward H. Busk, chairman of convocation, and Arthur W. Rücker, principal, has been sent to the vice-chancellor and principal of the University of Glasgow:

We are desired by the senate of the University of London, who met yesterday [January 22] for the first time after the Christmas vacation, to tender to you, and through you to the University of Glasgow at large, an expression of our sincere sympathy in the loss which you have suffered by the death of your chancellor. Lord Kelvin's researches into the operations of nature and his contributions to the sum of human knowledge, by which the work of all the universities of the civilized world has been so notably advanced, have given additional luster to the illustrious name of the University of Glasgow. It must ever remain to you a source of the proudest satisfaction that a career nobly and beneficently devoted to the welfare of humanity was throughout associated with the body over which he was presiding when the world lost him. We are proud to remember on this occasion that Lord Kelvin was one of the only two men, outside the circle of royalty, upon whom the University of London has ever conferred an honorary degree.

AT a meeting of the American Ethnological Society the following resolutions were adopted:

WHEREAS: The American Ethnological Society has suffered a severe loss by the death of Morris K. Jesup, its honorary president, its former president, and one of its honored members; and

WHEREAS: Through his wide sympathies and active cooperation, he has advanced the well-being of his fellow-citizens and the interests of science and art, and has placed the science of anthropology under lasting obligations by his generous support of the anthropological work of the American Museum of Natural History, by his maintenance of researches bearing upon anthropological problems, and by enlisting the interests of others in similar work; and

WHEREAS: He organized and maintained, partly alone, partly in cooperation with his friends, researches in Mexico, Central and South America, among the Indians of our western states, on the Pacific coasts of America and Asia, in Siberia, and in southeastern Asia, and gave liberally to these enterprises, not only of his wealth, but also of his wide experience and wise counsel: therefore be it

Resolved, That the American Ethnological Society wishes to express the sense of the great loss it has sustained by the death of one whose services to the science of anthropology will long live in the records of the researches that were undertaken at his instance.

Resolved, That a copy of these resolutions be sent to the family of the deceased.

THE Sheffield Scientific School, Yale University, has subscribed for a research room at the Marine Biological Laboratory, Woods Hole, Mass. It is expected that this will be an annual contribution, which will insure one research room for the use of some member of the biological staff.

A JOINT resolution presented to the House of Representatives by Mr. Mann, authorizing the presentation of the statue of Washington, now located in the capitol grounds, to the Smithsonian Institution, has been referred to the committee on the library.

THE permanent endowment fund of the American Museum of Natural History has been increased by a gift of $10,000 from Mrs. J. B. Trevor, and by the payment of a bequest of $25,000 from the estate of William P. Davis, Esq. H. W. Seton-Karr, Esq., of Wimbledon, England, has presented to the department of archeology seventy-one specimens of paleolithic implements collected by him in the districts of Poondi and Cazeepet, Madras Presidency, India. These implements are of red argillaceous sandstone and were washed out of Pleistocene alluvial deposits containing quartzite boulders. The department has received from Mr. Alanson Skinner a series of specimens collected for the museum last year in Ontario, Livingston and Erie counties, New York, from sites formerly occupied by the Seneca and Neutral Indians of Iroquoian stock.

THE Brazilian government has voted funds for the establishment of an experimental pathological institute at Manguinhos, intended

for the study of the parasitic and infectious diseases of man, animals and plants, and for the preparation of serums.

The foundation stone of an institute for the teaching of the history of medicine in connection with the University of Vienna will, says the *British Medical Journal,* shortly be laid. The state has promised a subvention, and the medical profession has contributed with a generous hand. In the institute there will be a museum containing collections of all sorts of things relating to medical history—portraits, books, instruments, apparatus, etc. One section of this will be devoted to a collection showing the development of the healing art in Austria. The establishment of the institute is due to the untiring efforts of Professors Neuburger and von Töply, both of whom have won deserved fame as medical antiquarians.

In October, 1891, Thomas George Hodgkins, of Setauket, New York, made a donation to the Smithsonian Institution, the income from a part of which was to be devoted to "the increase and diffusion of more exact knowledge in regard to the nature and properties of atmospheric air in connection with the welfare of man." In the furtherance of the donor's wishes, the Smithsonian Institution has from time to time offered prizes, awarded medals, made grants for investigations and issued publications. In connection with the approaching International Congress on Tuberculosis, which will be held in Washington, September 21 to October 12, 1908, a prize of $1,500 is offered for the best treatise that may be submitted to that Congress "On the Relation of Atmospheric Air to Tuberculosis." The treatises may be written in English, French, German, Spanish or Italian. They will be examined and the prize awarded by a committee appointed by the Secretary of the Smithsonian Institution in conjunction with the officers of the International Congress on Tuberculosis. The right is reserved to award no prize if in the judgment of the committee no contribution is offered of sufficient merit to warrant such action. The Smithsonian Institution reserves the right to publish the treatise to which the prize is awarded.

Professor H. McE. Knower, Secretary of the American Society of Naturalists, has sent the following resolution, adopted by the council of the society, advocating a biological survey of the Panama Canal zone:

Realizing that the work in the Panama Canal is changing biological conditions in Panama and that the completion of the Canal will enable the fresh-water faunæ of the two slopes to mingle freely and that many marine animals will succeed in passing the completed Canal, the American Society of Naturalists urges upon the President and Congress to make provision for a biological survey of the Panama Canal zone.

Since the conditions will be permanently changed as soon as the Canal is completed and the work can not be satisfactorily done after the completion of the canal, there is great urgency that provision for the work be made at once.

Resolved, That the secretary be instructed to send copies of this resolution to the President, the Vice-President, the Speaker of the House and the Secretary of the Smithsonian Institution.

Nature says: "Last spring Dr. J. Elberts, the German geologist, conducted an expedition to investigate further the fossiliferous deposits of the Bengawan River, near Trinil, in Java, rendered famous by the discovery of *Pithecanthropus erectus* by Dr. Eugene Dubois in 1891–2. Although extensive collections were made and fresh forms discovered, no trace of *Pithecanthropus* was found; but, according to the correspondent of the *Pall Mall Gazette* (January 17), Dr. Elberts found roughly fashioned implements of bone, "a fireplace, and the remains of extinct animals, from which he became convinced that the ape-man must have existed at a remoter period." Unfortunately, this statement is so vague that nothing can be accepted until more information comes to hand. The implication is that some beings made fires and cooked animals, now extinct, before the gravel beds were deposited which contain *Pithecanthropus* and other extinct forms. In the province of Madium a fireplace was discovered 20 feet below the surface containing stone arrow-heads and fragments of pottery, broken and partly burned bones, and charred

teeth of a fossil buffalo, together with the bones of deer, pigs, and a fossil elephant (*Stegodon*); some of these bones had been split open in order to extract the marrow. Dr. Elberts computes that these people lived 20,000 years ago, but, as the correspondent of the *Pall Mall Gazette* does not give the data upon which this estimation is based, this date must await the publication of all the facts. It is evident that we may congratulate our German colleagues on having discovered remains of early inhabitants of Java who were apparently in their "Neolithic" stage of culture. It is to be hoped that when the finds are published in full it will be possible to learn what manner of men they were. We understand that the expedition is now in south Sumatra, where fossil plants will also be collected, in the hope of determining whether Sumatra had an Ice age."

ON January 21, Lord Lister was enrolled as an Honorary Burgess of the City of Glasgow. According to the account in the *British Medical Journal* the lord provost, Sir William Bilsland, who presided at the ceremony, recalled Lord Lister's connection with the city while professor of surgery at the university and visiting surgeon at the royal infirmary. It was at Glasgow that he achieved world-wide distinction as a scientist and a surgeon by his discovery which had saved thousands of lives and greatly lessened human suffering. It had been well said that Lord Lister's work marked a new epoch in modern surgery, and his name would have an imperishable place alongside the greatest in his profession and among the noblest benefactors of humanity. Professor Sir Hector Cameron accepted on behalf of Lord Lister, who was unable to be present, the casket containing the burgess ticket, and read from him a letter recalling his connection with the University and the city, in the course of which he said: "Having in due time been elected by the managers of the Royal Infirmary as surgeon to that institution, I experienced uniform consideration at their hands when applying to the treatment of wounds the great truth which had been recently revealed by the illustrious Pasteur regarding the nature of fermentative changes in organic substances. That truth, though it seemed to me to shine clear as daylight from Pasteur's writings, was for many years not generally recognized, and thus it was my privilege to witness in my own practise, as the application of the principle became gradually improved, the revelation of pathological truths of fundamental importance and a revolution in practical surgery, and I look upon the years spent in your city as the happiest period in my life. The old infirmary is now giving place to more commodious buildings; and, great as must necessarily be the expense in this undertaking, I do not doubt that the proverbial liberality of Glasgow will prove fully equal to the occasion."

DURING the last year hydrologists of the U. S. Geological Survey have been making a study of the quality of the water of Lehigh River. The chief purpose of this work is to determine the nature and extent of the variations in the character of the water at different seasons of the year and its suitability for use by manufactories and for domestic purposes. At the same time the studies made show what minerals are dissolved from the soils of the Lehigh Valley and the quantity of each. Samples of the river water have been collected from day to day at South Bethlehem and shipped to the survey's laboratory at Washington, D. C., where chemists have submitted it to critical analysis. These studies are still unfinished, but many conclusions regarding the stream have been reached. It is shown, for example, that each year about 270,000 tons of dissolved minerals are carried past South Bethlehem. Of this quantity 10.2 per cent. is silica, the chief constituent of sand and of most rocks; more than 15 per cent. is calcium, washed into the stream as sulphate and carbonate of lime; nearly 6 per cent. is magnesium; nearly 8 per cent. is sodium, one of the constituents of common salt; only 1 per cent. is iron. The grand total of the minerals borne by the stream is made up of the metals named, carried in combination as sulphates, carbonates, chlorides and nitrates. The sulphate compounds are the chief constituents, amounting to about 116,000 tons a year; the

carbonates are next in rank, aggregating about 86,000 tons a year.

The report of the commissioner of patents for the fiscal year ending June 30, 1907, has been issued. According to the abstract in the *Electrical World,* there was filed a total of 66,795 applications, including 56,514 for mechanical patents; 816 for designs; 192 for reissues; 7,869 for registration of trade-marks; 982 for registration of labels and 422 for registration of prints. In addition to these applications, there were filed 1,900 caveats. There were issued 33,644 mechanical patents; 529 design patents; 165 reissues; and there were registered 8,798 trade-marks, 660 labels and 325 prints. The number of patents which expired was 25,322, while 4,707 letters patent were withheld for non-payment of the final fees; 14,565 applications were allowed, and awaiting the payment of the final fees. The total receipts of the office from all sources amounted to $1,859,592.89 for the fiscal year, of which there were expended $1,584,489.70, including $932,665.59 for salaries, leaving a surplus of $275,103.19, turned into the United States Treasury. The total net surplus of receipts over expenditures in the Treasury to the credit of the Patent Office on January 1, 1908, was $6,706,181.64, an amount derived entirely from the fees paid since 1837.

UNIVERSITY AND EDUCATIONAL NEWS

The graduate school of the University of Illinois was formally opened on February 4, when President G. Stanley Hall, of Clark University, made the opening address. This was followed by an address by Dean West, of Princeton University. The legislature of Illinois has appropriated the sum of $50,000 a year for the next two years for developing the graduate school. This is said to be the first appropriation specifically for graduate work in a state university.

Harvard University has established twenty-five additional university scholarships of $150 each, to be assigned annually, to seniors of high standing in Harvard and other colleges. These scholarships are to be awarded for study in the Graduate School of Arts and Sciences during the next academic year.

Large public bequests are made by the will of the late Miss Alice Byington, of Stockbridge, Mass., including $50,000 to the Tuskegee Institute and $160,000 to the Hampden Normal and Agricultural School.

A research fellowship in chemistry has been founded by the trustees of Bryn Mawr College and filled for this semester by the appointment of Miss Mary Cloyd Burnley, a former fellow, now of Vassar College.

Manchester University is to receive £12,000 by way of special grant from the treasury for the current year, instead of the reduced sum of £10,000.

The trustees of Columbia University have revised the statutes so that after six years of service a professor or adjunct professor may have leave of absence for one half year with full salary. Hitherto the statutes have permitted a sabbatical year's leave of absence on half salary.

At Syracuse University Dr. John L. Heffron has been appointed dean of the College of Medicine to succeed the late Gaylord P. Clark.

Dr. Benjamin Migne Duggar, formerly of Cornell, since 1902 professor of botany at the University of Missouri, has returned to Ithaca as professor of plant physiology in the State College of Agriculture.

Mr. W. S. Lozier, formerly instructor at the Pennsylvania State College, has been appointed instructor in engineering in the School of Applied Science of New York University.

Mr. W. W. Wallace has been appointed head of the department of applied mechanics in Liverpool University.

Mr. David K. Picken, M.A., chief assistant to the professor of mathematics, Glasgow University, has been appointed professor of mathematics in Victoria College, Wellington, N. Z.

Dr. R. Funter, docent at Marburg, has been appointed professor of mathematics at Basel.

Dr. L. Jost, acting professor in the Agricultural Academy at Poppelsdorf, has been appointed professor of botany at Strasburg.